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## GROUND-WATER RECORDS FOR THE AREA SURROUNDING THE CHICKASAW NATIONAL RECREATIONAL AREA, MURRAY COUNTY, OKLAHOMA

U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 83-27

Prepared in cooperation with THE NATIONAL PARK SERVICE





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By Robert L. Goemaat and Cass C. Willard

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## UNITED STATES DEPARTMENT OF THE INTERIOR JAMES G. WATT, Secretary

GEOLOGICAL SURVEY Dallas L. Peck, Director

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James H. Irwin, District Chief U.S. Geological Survey Water Resources Division Rm. 621, Old Post Office Bldg. 215 Dean A. Mc Gee Avenue Oklahoma City, Ok 73102 Telephone: 405-231-4256 Copies of this report can be purchased from:

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Western Distribution Branch
U.S. Geological Survey
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### GROUND-WATER RECORDS FOR THE

### CHICKASAW NATIONAL RECREATIONAL AREA, MURRAY COUNTY, OKLAHOMA

By

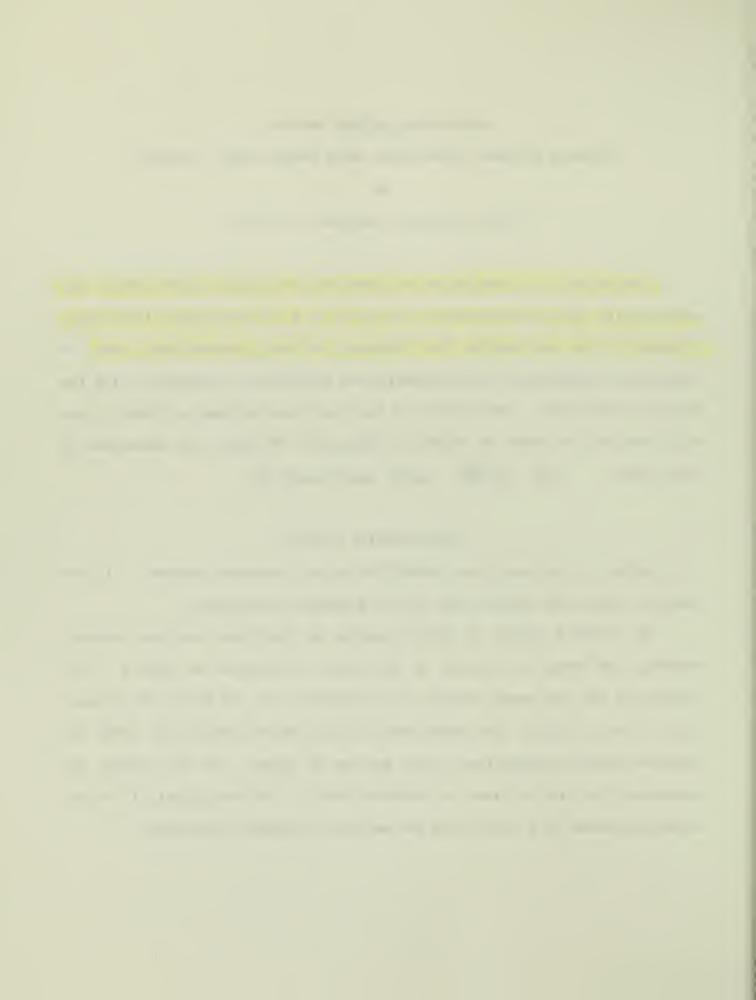
### Robert L. Goemaat and Cass C. Willard

This report is a compilation of ground-water records, water levels, and water-quality field determinations, for wells in a 132 square-mile (342 square kilometer) area surrounding the Chickasaw National Recreational Area in south-central Oklahoma. This information was collected in cooperation with the National Park Service. The location of the study area is shown on Figure 1; the well locations are shown on Figure 2. Data from 101 wells are summarized in this report.

### WELL-NUMBERING SYSTEMS

Wells in this report are identified by two numbering systems: (1) the township, range, and section; and (2) the geographic coordinates.

The standard method of giving location by fractional section, section, township, and range is replaced by the method illustrated on page 4. The location of the site would normally be described as NW 1/4 SW 1/4 SE 1/4 sec. 12, T. 01 N., R. 03 E. The method used in this report reverses the order and indicates quarter subdivisions of the section by letters. By this method, the location of the site is given as 01N-03E-12 DCB 1. The final digit (1) is the sequential number of a site within the smallest fractional subdivision.



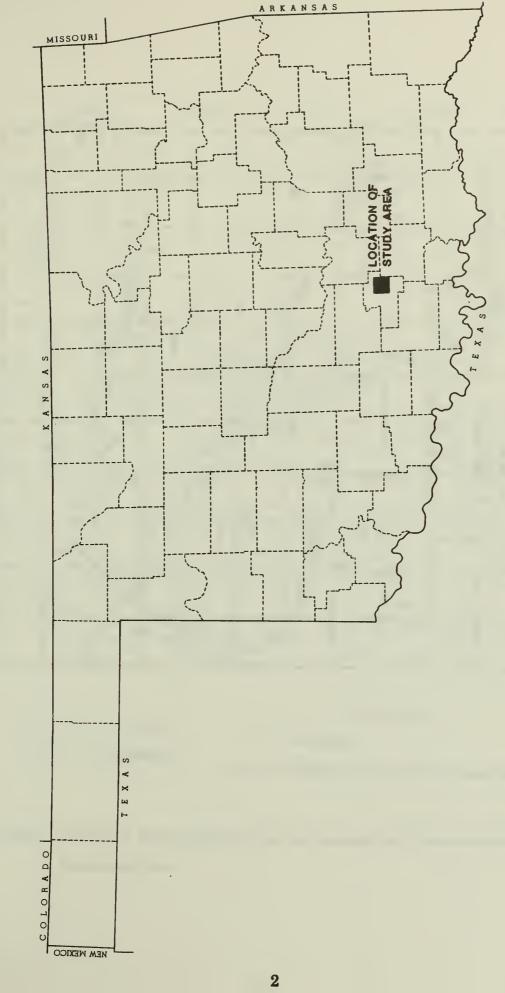


Figure | Location of study area.



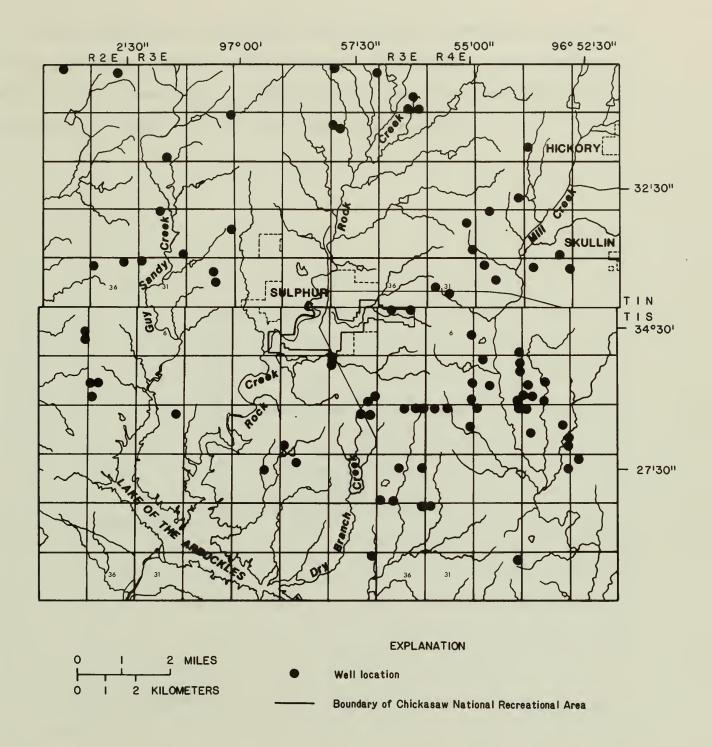
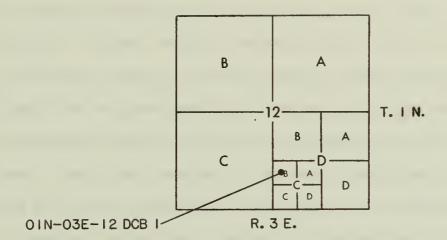


Figure 2 Location of wells inventoried in the area surrounding the Chickasaw National Recreational Area.



Site identification numbers are also determined by geographic coordinates at the well site. The site with a latitude of 34°33'57" N. and longitude of 96°56'22" E. is identified as 343357096562201. The final two digits (01) are the sequential number of a site at the specified coordinates.





### COLLECTION OF DATA

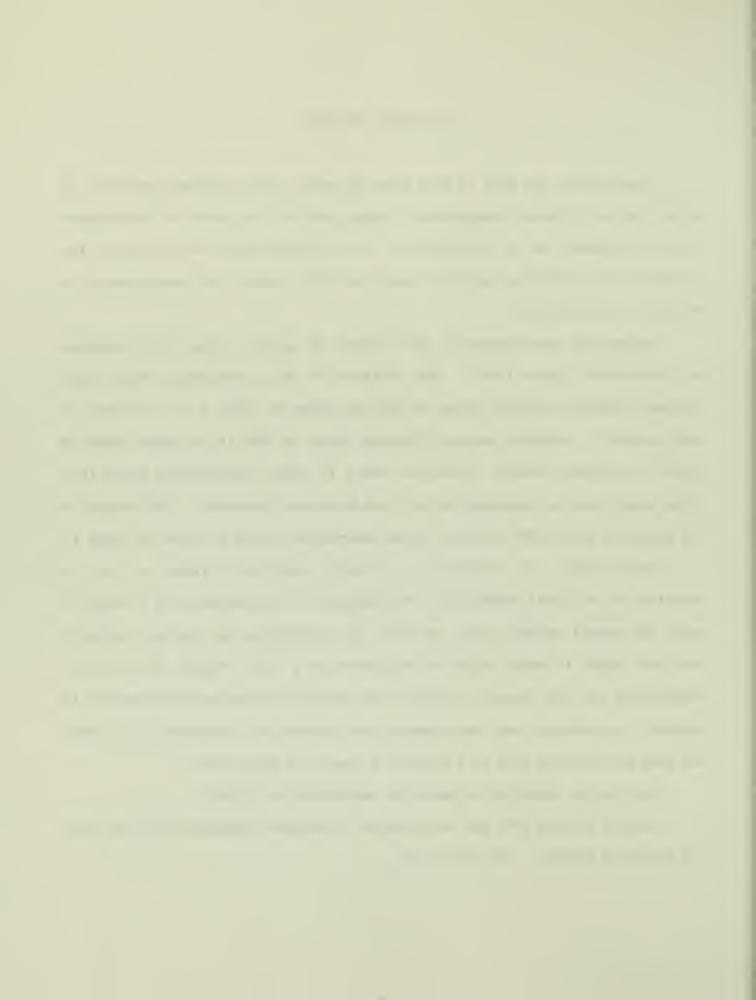
Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (1sd). The altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in table 1 as "altitude of land surface". National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. The height of the measuring point (MP) above or below land-surface datum is given in table 1.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth of water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements is greater. Accordingly, most measurements are accurate to a hundredth of a foot, but some are accurate only to a tenth of a foot or a larger unit.

Feet may be converted to meters by multiplying by 0.3048.

Degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) by using the following formula:  $^{\circ}F= 9/5^{\circ}C + 32$ .



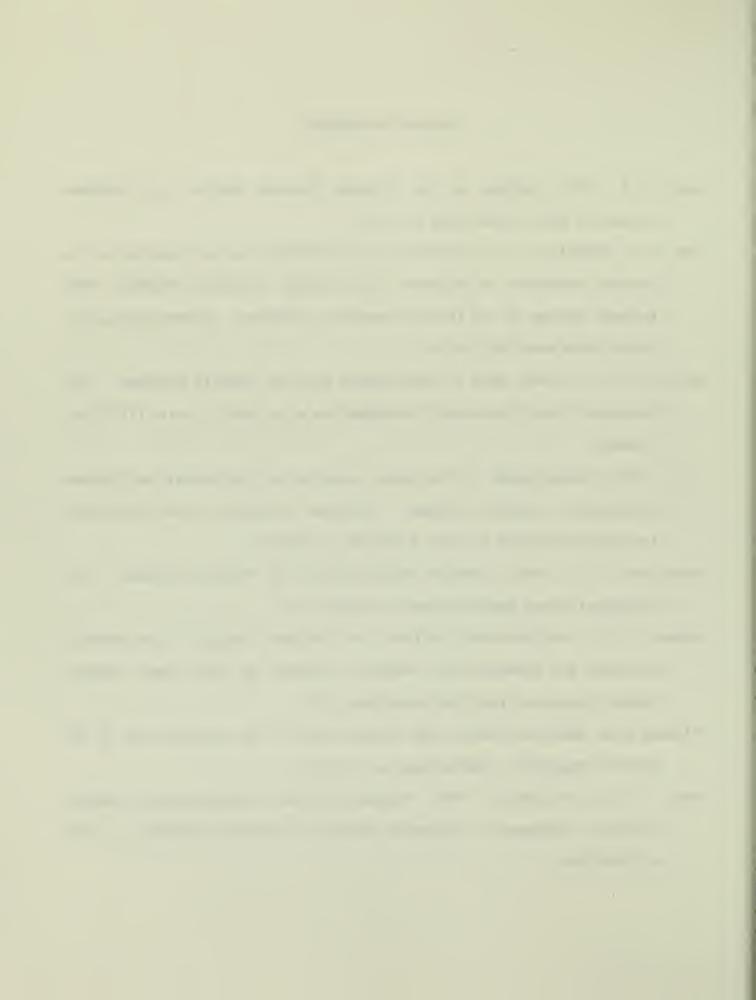
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### ABBREVIATIONS AND CONVERSION FACTORS

The following abbreviations are used in Table 1:

HYDROLOGIC UNIT (OWDC)--Hydrologic unit as determined from the Hydrologic Unit Map-1974 State of Oklahoma.

MP--Measuring point; height above land surface, in feet.

Use of water--

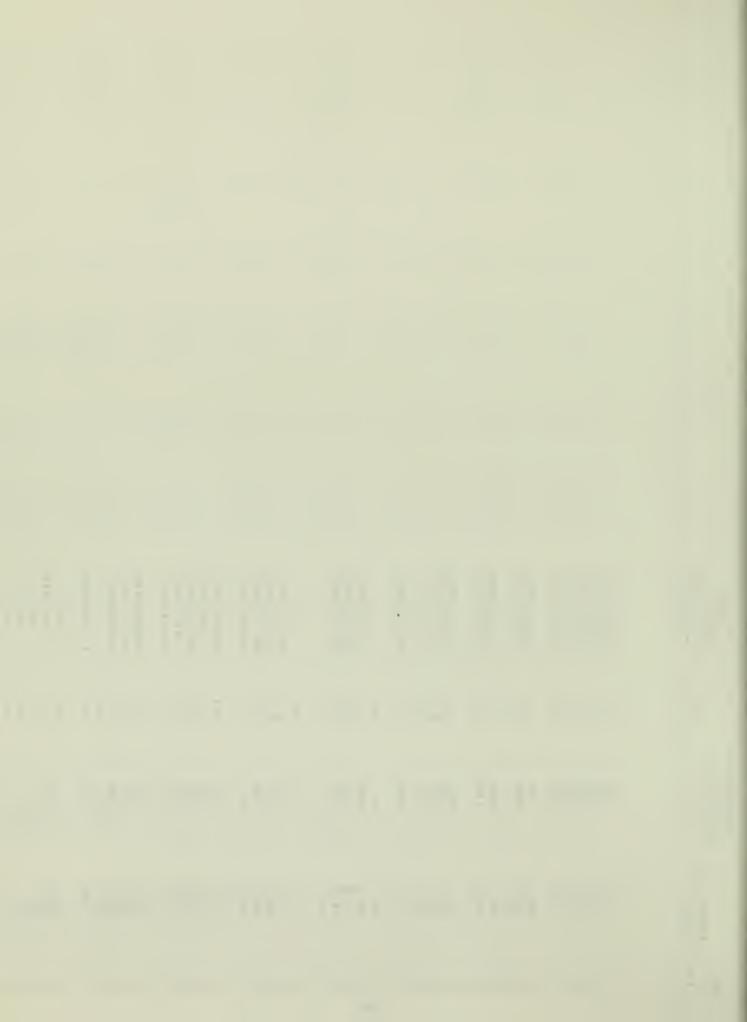
- H, Domestic
- I, Irrigation
- S, Stock Supply
- U, Unused



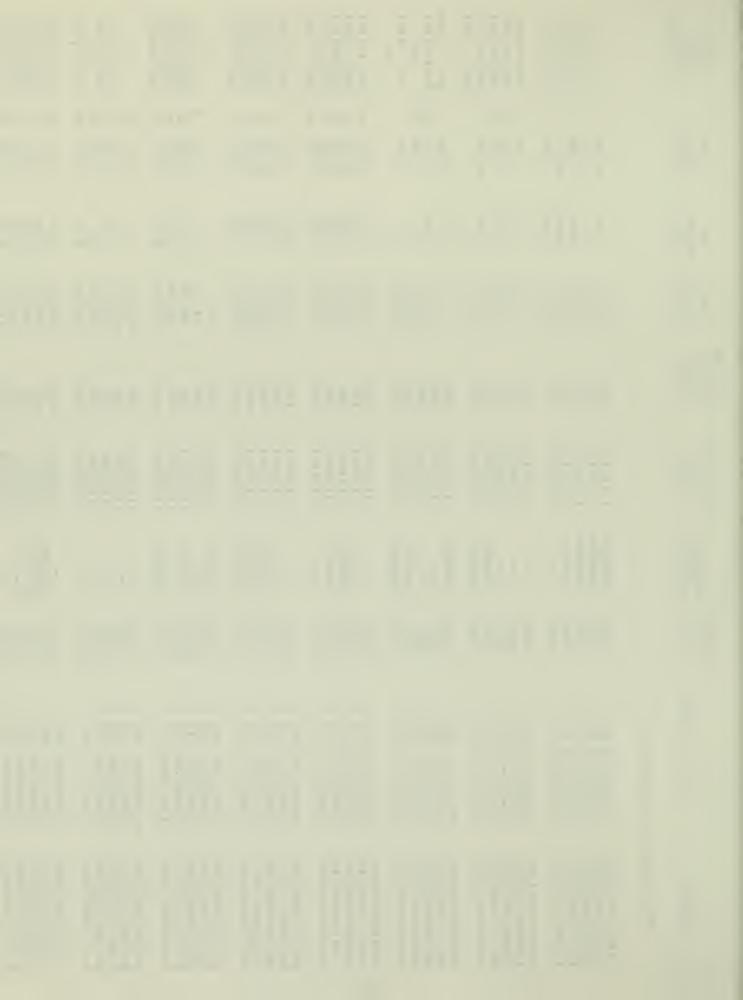
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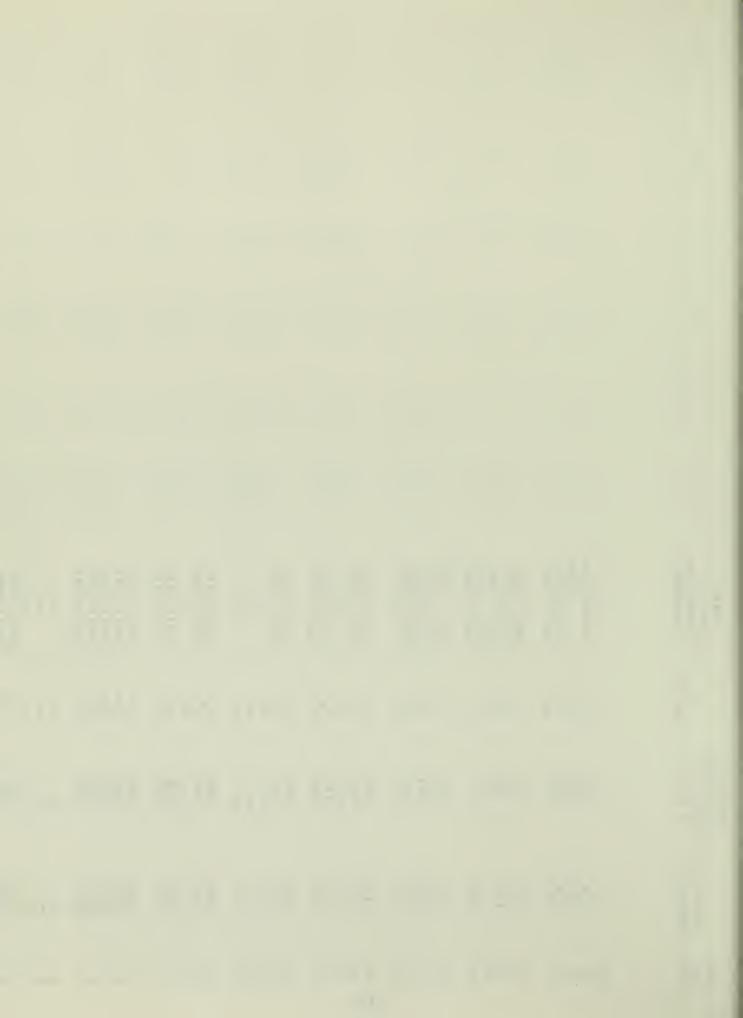
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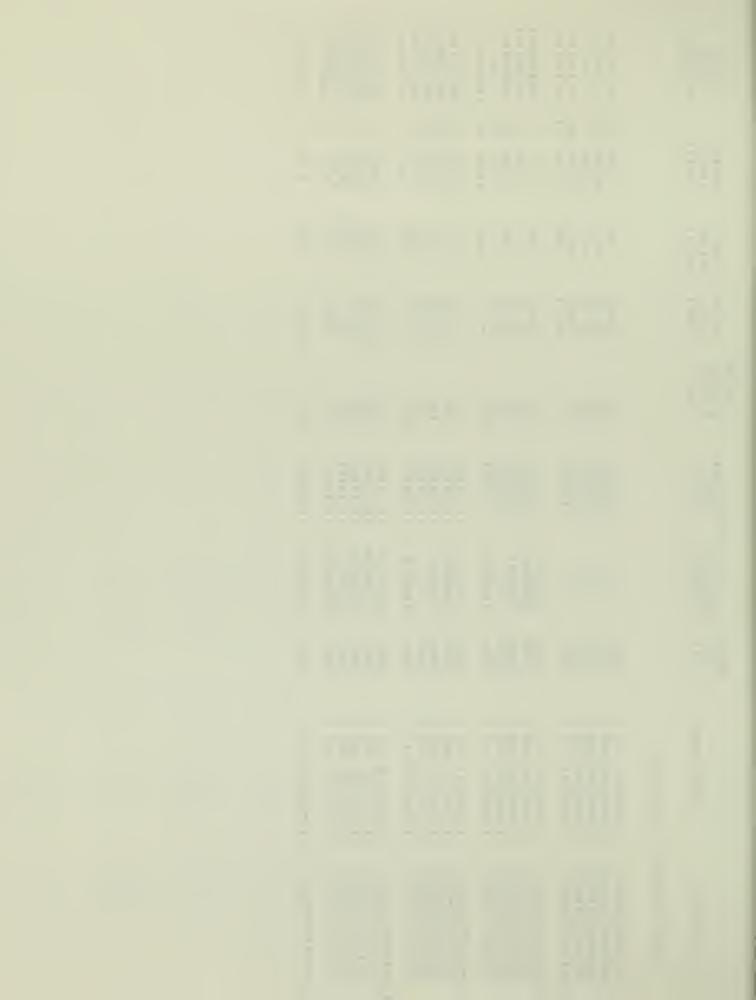
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		SITE-ID	MURRAY COUNTY	342904096535101	342904096534802	342848096535001	342941096532801	342542096565801	342818096525901	342032096535101	342834090534301	342010090534501	342403099525401	342835096535801	342635096545501	342017096545901	5960	342937096553301	342759096545801		342728096525201	342040196555101	342553096535401	342533096531201



DATE	χω M ⊃	6/17/198	06/17/1981	6/18/198	6/16/198	:	:	;	5/08/19	861/91/9	/05/197	6/17/198	06/01/1977	:	06/17/1981	:	:	;	06/01/1977	•	•	
	(0) 11 (0)				9.9		:	:	7.1				7.1		6.7		:	;	7.1		;	
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	COEGREES C)	0	0	2			:	:	15.5	2	.00	<b>a</b> 0	23,5		20.0		:	:		:	:	
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